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Cleaning Up Inactive Uranium Mill Tailings Sites. June 20, 1978.
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Commerce: Energy and Power Subcommittee; by Monte Canfield, Jr.,
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Twenty-two uranium mills have been closed down since the 1940's, resulting in about 25 million tons of radioactive sand-like waste, called uranium mill tailings, in unattended piles and ponds. According to the Department of Energy, these tailings are a potential health hazard. The Residual Radioactive Materials Act of 1978 would provide for a joint Federal-State remedial action program in which the Federal Government would pay up to 75% of the cost of cleaning up these tailing sites and the States would contribute the rest. The bill provides for Federal payment of 100% of costs when the sites are located on Indian lands. The advantages of such a program include reducing a possible health hazard to the public, taking a first step toward resolving some of the problems involved in safely disposing of radioactive wastes, and improving the depressed value of some lands on which tailings are located. Disadvantages involve: estimated costs of up to \$126 million with the Federal Government bearing the heaviest burden; the program could be considered a precedent for the Government to pay for cleaning up other nuclear facilities; and the technology to stabilize the mill tailings has not been fully developed. Assuming that existing technology for cleaning up mill tailings is adequate, the proposed legislation should accomplish the objective of cleaning up the abandoned mill tailings. The following areas in the legislation need to be clarified: time limits for State participation, exclusion of some mill sites from the program, ownership of some mill sites, costs to be borne by participating governments, and reports to the Congress. (FRS)

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STATEMENT OF
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ENERGY AND MINERALS DIVISION
BEFORE THE
SUBCOMMITTEE ON ENERGY AND POWER
HOUSE COMMITTEE ON INTERSTATE AND FOREIGN COMMERCE
ON
CLEANING UP INACTIVE URANIUM MILL TAILINGS SITES

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to be here today to discuss the need for, and adequacy of, the Department of Energy's proposed "Residual Radioactive Materials Act of 1978" (H.R. 12535).

BACKGROUND

Uranium mills are an often overlooked, but vital part of the nuclear fuel cycle. These mills extract uranium from ore for eventual use in nuclear weapons or nuclear powerplants. Today, we are concerned primarily with the 22 mills that have closed down since the 1940s, leaving about 25 million tons of radioactive sand-like waste--commonly called uranium mill tailings--in unattended piles and ponds. These tailings, which, according to the Department of Energy, are a possible health hazard, were produced primarily as a result of the Federal Government's Manhattan Engineering District and Atomic Energy Commission programs from the early 1940s through the early 1970s.

As a point of reference, there are 16 mills currently in operation throughout the United States, and according to the Nuclear Regulatory Commission, 109 mills will be needed by the year 2000. Although the tailings from these current and future mills will eventually need to be taken care of, we are addressing only those sites which have already been closed down.

On April 27, 1978, the Department of Energy submitted proposed legislation to the Congress that, if enacted, would allow the Department to enter into cooperative agreements with a number of States to clean up these inactive mill tailings sites. The proposed legislation, entitled "The Residual Radioactive Materials Act of 1978" (H.R. 12535), would primarily provide for a joint Federal/State remedial action program in which the Federal Government would pay up to 75 percent of the cost and the States would contribute the rest. Where the sites are located on Indian lands, however, the bill provides for Federal payment of 100 percent of the costs. Unless the Secretary of Energy otherwise determines, the remedial actions will be performed by the Department of Energy or its authorized contractors.

On May 5, 1978, the Chairman of the Subcommittee on Energy and Power, House Committee on Interstate and Foreign Commerce, asked the General Accounting Office (GAO) for its views on the proposed legislation. In response to that request, we prepared a report that addresses

- the need for a Federal program to clean up the 22 inactive uranium mill tailings sites;
- the adequacy of the proposed legislation that would authorize such a program;
- the progress and problems of an existing, but much smaller, cleanup program at Grand Junction, Colorado; and
- several other questions asked by the Subcommittee Chairman.

The report is entitled "The Uranium Mill Tailings Cleanup: Federal Leadership at Last?" (EMD-78-90, June 20, 1978). We have brought a number of copies with us today for your consideration and we are printing additional copies that will be available within the next few weeks.

THE NEED FOR A FEDERAL URANIUM
MILL TAILINGS CLEANUP PROGRAM

A number of important factors need to be considered before the Congress decides to allow the Department of Energy to enter into cooperative agreements with various States to clean up radioactive tailings at inactive uranium mill sites. Our report identifies and addresses the following seven factors that we believe you should consider:

- To what extent do the mill tailings constitute a hazard to the public's health and safety?

--Is the mill tailings cleanup program necessary for nuclear power to become a substantial source of energy for the future?

--Can productive uses be made of the generally unproductive mill tailings sites?

--To what extent is the Federal Government responsible for creating the mill tailings situation?

--How much will the proposed program cost?

--Are adequate cleanup technologies presently available?

--What is the relationship of the mill tailings cleanup program to other nuclear facilities that may eventually need to be cleaned up?

The report we are providing today contains information on each of these seven factors. We believe that when the seven factors are considered, the Subcommittee will recognize that a decision in this area cannot be clear-cut. While there are sound reasons to go forward with the program, a number of other reasons argue against it.

Advantages of allowing the program to get underway include (1) reducing a possible health hazard to the public as a result of the radiation emission from the tailings, (2) taking a first step toward resolving some of the problems of safely disposing of radioactive wastes--a barrier preventing the United States from placing greater reliance on nuclear power as a substantial energy source, and (3) improving the otherwise depressed value

of some of the land on which the mill tailings are located as well as the value of the adjoining property.

Offsetting these advantages, however, are some disadvantages. The proposed program is estimated to cost up to \$126 million, with the Federal Government bearing the heaviest burden, while receiving the least direct benefits. More important, the cleanup program could be considered as a precedent for the Federal Government to pay for cleaning up other nuclear facilities--a far more costly endeavor than the mill tailings cleanup. This is extremely important because the question of who should pay for cleaning up nuclear facilities has not yet been answered, primarily because very little decommissioning of these facilities has been done to date.

Finally, while not as serious as the above, the technology to stabilize the mill tailings has not been fully developed, possibly preventing a truly satisfactory resolution of the problem at this time.

According to the Department of Energy, the Federal Government's liability for the mill tailings problem has not been established. While the mill tailings resulted primarily from the Federal Government's Manhattan Engineering District and Atomic Energy Commission programs, no one required--either through regulations or a contract--industry to clean up the tailings. According to Department of Energy and Nuclear Regulatory Commission officials, this happened because the effects of the radioactivity in the mill tailings were believed to be

minimal or nonexistent. Only recently--after most of the mills had been shut down--has major concern developed about the possible adverse health effects of radiation in the tailings. Given these circumstances, GAO believes that the Federal Government has a strong moral responsibility to at least assist in cleaning up the abandoned tailings. Further, it is probably the only organization with the ability to carry out such a cleanup on a comprehensive basis.

THE ADEQUACY OF THE PROPOSED LEGISLATION

For the Federal Government to help clean up the 22 inactive uranium mill tailings sites, legislation is clearly needed. Although other legislation has been proposed to allow the Federal Government to begin a mill tailings cleanup program, we concentrated on reviewing the Department of Energy's proposed "Residual Radioactive Materials Act of 1978" (H.R. 12535) that provides primarily for a joint Federal/State cleanup program.

We reviewed this legislation from the standpoint of our previous and ongoing involvement in evaluating the mill tailings and radioactive waste disposal problems and programs, concentrating on:

- Will the proposed legislation, if enacted, help accomplish the objective of cleaning up the abandoned mill tailings in an effective and economical manner?

--Will the proposed legislation, if enacted, assure that the public's interest is adequately protected?

Assuming that existing technology for cleaning up mill tailings is adequate--a concern I will discuss later--we believe that the proposed legislation could accomplish the objective of cleaning up the abandoned mill tailings and protect the public's interest. There are areas in the proposed legislation, however, that need to be clarified. Specifically:

--First, the proposed legislation does not put a time limit on when the States are required to participate, thus allowing the program to run indefinitely.

--Second, the proposed legislation excludes some mill tailings sites from the cleanup program. Unless they are addressed at this time, these sites may not be adequately cleaned up.

--Third, some of the sites will not have to be owned by the State or the Federal Government. This could result in a future health hazard because the sites could be inadvertently disturbed by future generations.

--Fourth, the costs to be borne by the Federal Government and the States are not clearly defined in the proposed legislation, leaving questions about who will pay for various aspects of the cleanup program.

--Finally, the proposed legislation (1) does not require the Department to report to the Congress on the program's progress, (2) does not provide for GAO access to all

pertinent documents, and (3) authorizes unlimited Federal funding of the program. The lack of such provisions diminishes necessary congressional control over the program.

PROGRESS AND PROBLEMS OF THE GRAND
JUNCTION REMEDIAL ACTION PROGRAM

Public Law 92-314, as amended, authorized the Federal Government to enter into a cooperative agreement with the State of Colorado to clean up uranium mill tailings used for construction purposes in the Grand Junction, Colorado, area. Tailings removed during this cleanup are deposited at the Grand Junction mill tailings site and will ultimately be disposed of with these tailings. As of May 1978 about \$6.5 million of the total authorized Federal and State funding of about \$12 million has been spent. During the past 6 years remedial action has been taken at only 315 locations, leaving about 385 more to be done.

As a result of the Subcommittee's recent request, we identified a number of problems that have impeded the successful completion of the Grand Junction program. First and foremost, the managers of the program have been unable to fully plan for the needed remedial actions, primarily because the program is voluntary. Property owners have to apply for assistance before the total number of locations and estimated costs can be determined. Second, the program is having considerable difficulty in getting enough contractors to do the cleanup work, because they appear to be more interested in doing other work.

MATTERS FOR CONSIDERATION BY THE
SUBCOMMITTEE ON ENERGY AND POWER
AND THE CONGRESS

We recommend that the Congress endorse legislation which would have the Federal Government take the lead in cleaning up the uranium mill tailings at the inactive mill sites. We believe the Federal Government has a moral responsibility to provide this assistance. Further, the Federal Government is the only organization with the ability to undertake the cleanup on a comprehensive basis. The Congress should make clear that this is a unique situation, and establishes no precedent for the Federal Government assuming the financial responsibility of cleaning up other nuclear facilities and wastes.

We also recommend that the Subcommittee take steps to amend the proposed legislation to

- put a time limit on when the sites must be cleaned up;
- require the Nuclear Regulatory Commission, with assistance from the Department of Energy and the Environmental Protection Agency, to report to the Congress on the need, and adequacy of plans, to clean up mill tailings sites excluded by the legislation, and to make recommendations, if needed, for additional legislation or executive branch actions to insure the cleanup of all sites;
- require either Federal or State ownership of all lands on which mill tailings are to be placed for long-term stabilization;

--specify the types of costs to be included in the program and those to be borne by the States and by the Federal Government; and

--improve congressional control over the program by (1) requiring the Department of Energy to periodically report to the Congress on the progress of the cleanup program, (2) require annual authorization and appropriation of funds for the program, and (3, allow GAO to have access to all pertinent documents relating to the program.

We also recommend that, because of uncertainties about the adequacy of the current technology for cleaning up mill tailings, the Secretary of Energy should report to the Congress, through the Subcommittee on Energy and Power and its Senate counterpart, whether mill tailings cleanup research and development has reached a satisfactory point whereby the mill tailings cleanup program can proceed with a high probability of success at this time. If this report shows that the research and development has not reached a satisfactory point, the Secretary should describe what remains to be done and make recommendations to assure that the necessary research and development work is completed in a timely manner. The Secretary should also report to the Congress on the actions it has taken to see that the Grand Junction remedial action program is aggressively carried out.

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Before concluding my statement, let me again emphasize what I believe to be a very important point. The legislation only deals with the responsibility of the Federal Government for assisting in cleaning up mill tailings at inactive uranium mills. The broader question of who should be responsible for expenses incurred at the so-called "back end" of the fuel cycle, such as decommissioning and decontaminating nuclear powerplants and other nuclear facilities, remains to be addressed. To be licensed, currently operating uranium mills must agree to clean up all of their radioactive materials--an approach we favor. For nuclear powerplants and other nuclear facilities, however, as highlighted in our June 1977 report to the Congress on "Cleaning Up the Remains of Nuclear Facilities --A Multibillion Dollar Problem," the question of basic responsibility for decommissioning has yet to be addressed.

This concludes my prepared statement. We would be pleased to respond to any questions you might have.